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4 February 2015, Article number 7031613, Pages 111-114
5th International Conference on Computer and Communication Engineering, ICCCE 2014; Sunway Putra HotelKuala Lumpur; Malaysia; 23 September 2014 through 24 September 2014; Category numberE5413; Code 110844

Investigation on grid synchronization for grid-tied DC-AC single phase inverters (Conference Paper)

Shahid, Z., Khan, S., Alam, A.Z., Ahmed, M.M.

Department of Electrical and Computer Engineering, Kuiliyyah of Engineering, International Islamic University, Malaysia

Abstract

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This paper presents a single-phase Grid-tied inverter for renewable energy systems, which can be used for obtaining small-voltage AC supply for powering small electronic devices or can be used in a distributed grid system for utility supply. The issue of synchronization of these DC-AC inverters with the grid/utility systems is explained and investigated thoroughly in this research. The waveforms generated by each stage of inverter is shown and the issue of power loss caused by variation in phase and frequency due to in-accurate zero crossings is also shown and discussed.
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Author keywords

Inverter and grid-tied Synchronization

Indexed keywords

Engineering controlled terms: Renewable energy resources Synchronization

DC-AC inverters
Electronic device
Grid synchronizations
Inverter and grid-tied
Renewable energy systems
Single-phase inverters
Utility supply
Zero-crossings

Engineering main heading: Electric inverters

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ISBN: 978-147997635-5
Source Type: Conference Proceeding
Original language: English

DOI: 10.1109/ICCCE.2014.42
Document Type: Conference Paper
Volume Editors: Gunawan T.S.
Sponsors: Felda Wellness Corporation,Malaysia Convention and Exhibition Bureau (MyCEB),Malaysian Industry-Government Group for High Technology,University Putra Malaysia,Yayasan Kesejanteran Bandar
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